



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,040	02/28/2002	David Miller	19930-002800	6478
20350	7590	10/10/2003	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			DOUGHERTY, THOMAS M	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

724

Office Action Summary	Application No. 10/087,040	Applicant(s) MILLER ET AL.	
	Examiner Thomas M. Dougherty	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-91 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1 and 2, drawn to a method for overcoming stiction, classified in class 318, subclass 437.
- II. Claims 3-10, drawn to electromechanical system capable for overcoming stiction, classified in class 318, subclass 558.
- III. Claim 22-27, drawn to a method for overcoming stiction, classified in class 318, subclass 437.
- IV. Claims 18-24, drawn to a method for overcoming stiction, classified in class 318, subclass 437.
- V. Claims 25-31, drawn to electromechanical system, classified in class 307, subclass 143.
- VI. Claims 32-40, drawn to method of providing localized vibration, classified in class 318, subclass 159.
- VII. Claims 41-45, drawn to an electromechanical system, classified in class 307, subclass 143.
- VIII. Claims 46-49, drawn to an optical routing apparatus, classified in class 385, subclass 18.
- IX. Claims 50-56, drawn to an electromechanical system, classified in class 307, subclass 143.

- X. Claims 57-62, drawn to a method of providing localized vibration, classified in class 318, subclass 159.
- XI. Claims 63 and 64, drawn to an electromechanical system, classified in class 318, subclass 159.
- XII. Claims 65-67, drawn to an optical routing apparatus, classified in class 385, subclass 18.
- XIII. Claims 68-80, drawn to an electromechanical system, classified in class 307, subclass 143.
- XIV. Claims 83-89, drawn to a method of providing localized vibration, classified in class 318, subclass 34.
- XV. Claims 90 and 91, drawn to an electromechanical system, classified in class 307, subclass 143.

Inventions of Group I and of Group II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area.

Inventions of Group I and of Group III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other

combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because there is no pivot.

Inventions of Group I and of Group IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because there is no provision of at least a first and second device.

Inventions of Group I and of Group V are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group I and of Group VI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed

does not require the particulars of the subcombination as claimed because there is no provision employment of static force in the combination.

Inventions of Group I and of Group VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are a method of overcoming stiction and an electro-mechanical system employing a DC actuator. Note that no DC actuator is employed in the method.

Inventions of Group I and of Group VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group I and of Group IX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case focused sonic or ultrasonic means, focused use of gas or liquid, can be employed to overcome stiction in the electromechanical system.

Inventions of Group I and of Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the

combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the particulars of the subcombination, such as the alternating force application at a first potential and at a second potential.

Inventions of Group I and of Group XI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area.

Inventions of Group I and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group I and of Group XIII are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means

such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group I and of Group XIV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars provision of a frequency or harmonic of the driving force to vibrate the stop.

Inventions of Group I and of Group XV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group II and of Group III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means

such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group II and of Group IV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group II and Group V are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the force actuator with the static displacement means nor is use of a DC voltage application noted.

Inventions of Group II and of Group VI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means

such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group II and Group VII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the DC actuator.

Inventions of Group II and of Group VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group II and Group IX are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the AC actuator or DC actuator.

Inventions of Group II and Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an alternating force to an actuator.

Inventions of Group II and Group XI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an AC voltage application.

Inventions of Group II and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group II and Group XIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the

combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group II and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group II and Group XV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the

driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group III and Group IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require first and second devices with their own explicit locations for contact positions.

Inventions of Group III and Group V are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require first and second devices with their own explicit locations for contact positions.

Inventions of Group III and Group VI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other

combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require static force application.

Inventions of Group III and of Group VII are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group III and of Group VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group III and of Group IX are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means

such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group III and Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require static positioning means.

Inventions of Group III and of Group XI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group III and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group III and Group XIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not AC voltage.

Inventions of Group III and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group III and of Group XV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group V and Group IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require first and second devices with their own explicit locations for contact positions.

Inventions of Group IV and Group VI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require static force application.

Inventions of Group IV and of Group VII are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group IV and of Group VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group IV and of Group IX are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group IV and Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require static positioning means.

Inventions of Group IV and of Group XI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as

claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group IV and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group XIII and Group IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not employ two devices and two contacts at the base layer.

Inventions of Group IV and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different

process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group IV and of Group XV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group V and of Group VI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group V and Group VII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed

Art Unit: 2834

does not require the particulars of the subcombination as claimed because the combination does not a static force application means.

Inventions of Group V and of Group VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group V and Group IX are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the AC actuator.

Inventions of Group V and Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an alternating force to an actuator.

Inventions of Group V and Group XI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an AC voltage application.

Inventions of Group V and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group V and Group XIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group V and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group V and Group XV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group VI and of Group VII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are not disclosed as usable together.

Inventions of Group VI and of Group VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method for providing localized vibration and the other is an optical routing apparatus.

Inventions of Group VI and of Group IX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case focused sonic or ultrasonic means, focused use of gas or liquid, can be employed to overcome stiction in the electromechanical system.

Inventions of Group VI and of Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the particulars of the subcombination, such as the alternating force application at a first potential and at a second potential.

Inventions of Group VI and of Group XI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as

Art Unit: 2834

claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case generation of localized vibration can be provided by hand or other means such as focusing of ultrasonic energy or focus of air or gas.

Inventions of Group VI and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method of providing localized vibration and the other is an optical routing apparatus.

Inventions of Group VI and of Group XIII are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case localized vibration can be generated hand or other means such as focusing of ultrasonic energy or focus of air or gas.

Inventions of Group VI and of Group XIV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars provision of a frequency or harmonic of the driving force to vibrate the stop.

Inventions of Group VI and of Group XV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case localized generation of vibration can be generated hand or other means such as focusing of ultrasonic energy or focus of air or gas.

Inventions of Group VII and of Group VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group VII and Group IX are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the generation of oscillation by means of an AC actuator.

Inventions of Group VII and of Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as

claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an alternating force to an actuator.

Inventions of Group VII and Group XI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an AC voltage application.

Inventions of Group VII and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group VII and Group XIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed

Art Unit: 2834

does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group VII and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group VII and Group XV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group VIII and of Group IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have

Art Unit: 2834

different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical device capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group VIII and of Group X are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group VIII and of Group XI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group VIII and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions employ an AC actuator and a DC actuator respectively.

Inventions of Group VIII and of Group XIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and

Art Unit: 2834

they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group VIII and of Group XIV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group VIII and of Group XV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group IX and Group X are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an alternating force to an actuator.

Inventions of Group II and Group XI are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require explicit use of an AC voltage application.

Inventions of Group IX and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group IX and Group XIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group IX and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group IX and Group XV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group X and of Group XI are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case generation of localized vibration can be provided by hand or other means such as focusing of ultrasonic energy or focus of air or gas.

Inventions of Group X and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method of providing localized vibration and the other is an optical routing apparatus.

Inventions of Group X and of Group XIII are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case localized vibration can be generated hand or other means such as focusing of ultrasonic energy or focus of air or gas.

Inventions of Group X and of Group XIV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars provision of a frequency or harmonic of the driving force to vibrate the stop.

Inventions of Group X and of Group XV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process.

Art Unit: 2834

(MPEP § 806.05(e)). In this case localized generation of vibration can be generated hand or other means such as focusing of ultrasonic energy or focus of air or gas.

Inventions of Group XI and of Group XII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group XI and Group XIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group XI and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other

Art Unit: 2834

means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group XI and Group XV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group XII and of Group XIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group XII and of Group XIV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is a method of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group XII and of Group XV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions one invention is an electromechanical system capable of overcoming stiction and the other is an optical routing apparatus.

Inventions of Group XIII and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Inventions of Group XIII and Group XV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require generation of a driving force wherein a frequency of the driving force is at or near the resonant frequency or a harmonic thereof of a component of the invention.

Inventions of Group XIV and of Group XIV are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case stiction can be overcome by hand or other means such as focusing of ultrasonic energy or focus of air or gas or liquid at the contact area as opposed to oscillation.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Direct inquiry concerning this action to Examiner Dougherty at (703) 308-1628.

md
tmd

October 6, 2003

Blawie M. Dougherty
8